

SEQUENCE LISTING

<110> JAKOBSEN, Bent Karsten  
BOULTER, Jonathan Michael

<120> Multivalent T Cell Receptor Complexes

<130> 102286.410

<140> US 09/334,969  
<141> 1999-06-17

<150> PCT/GB99 01583  
<151> 1999-05-19

<150> GB 9810759.2  
<151> 1998-05-19

<150> GB 9821129.5  
<151> 1998-09-29

<160> 85

<170> PatentIn Ver. 2.1

<210> 1  
<211> 744  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding  
for human HLA-A2/flu matrix peptide restricted  
JM22 TCR alpha chain fused to c-jun leucine zipper  
domain.

<400> 1  
atgcaactac t<sup>a</sup>gaa<sup>c</sup>aa<sup>t</sup>ag tcctcagttt ctaagcatcc aagaggaga aaatctca 60  
gtgtactgca actcctcaag t<sup>t</sup>tttttcc agcttacaat ggtacagaca ggagcctggg 120  
gaaggtcctg tcctccttgt gacagttagt acgggtggag aagtgaagaa gctgaagaga 180  
ctaacccttc agtttgtga tgcaagaaag gacagttctc tccacatcac tgccggccag 240  
cctggtgata caggcctcta cctctgtgca ggagcgggaa gccaaaggaaa ttcatcttt 300  
ggaaaaggca cttaactctc ttttaaacca aatatccaga accctgaccc tgccgtgtac 360  
cagctgagag actctaaatc cagtgacaag tctgtctgcc tattcacccga ttttgattct 420  
caaacaaatg tgtcacaaag taaggattct gatgtgtata tcacagacaa aactgtgcta 480  
gacatgaggt ctatggactt caagagcaac agtgcgtgtgg cctggagcaa caaatctgac 540  
tttgcgttg caaacgcctt caacaacagc attattccag aagacacctt cttccccagc 600  
ccagaaagtt cccccggggg tagaatcgcc cggtggagg aaaaagtgaa aaccttgaaa 660  
gctcagaact cggagctggc gtccacggcc aacatgtca gggAACAGGT ggcacagctt 720  
aaacagaaag tcatgaacta ctag 744

210> 2

<211> 247

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of human HLA-A2/flu matrix peptide restricted JM22 TCR alpha chain fused to c-jun leucine zipper domain.

<400> 2

Met Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu Gly  
1 5 10 15

Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser Ser Leu  
20 25 30

Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu Val Thr  
35 40 45

Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr Phe Gln  
50 55 60

Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala Ala Gln  
65 70 75 80

Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Ala Gly Ser Gln Gly  
85 90 95

Asn Leu Ile Phe Gly Lys Gly Thr Lys Leu Ser Val Lys Pro Asn Ile  
100 105 110

Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser  
115 120 125

Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val  
130 135 140

Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu  
145 150 155 160

Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser  
165 170 175

Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile  
180 185 190

Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly Gly Arg  
195 200 205

Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn Ser  
210 215 220

Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln Leu  
225 230 235 240

Lys Gln Lys Val Met Asn Tyr

<210> 3  
 <211> 864  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Gene coding  
 for human HLA-A2/flu matrix peptide restricted  
 JM22 TCR beta chain fused to c-fos leucine zipper  
 domain.

<400> 3  
 atgggtggatg gtggaatcac tcagtcacca aagtacctgt tcagaaagga aggacagaat 60  
 gtgaccctga gttgtgaaca gaatttgaac cacatgcac tgcactggta ccgacaggac 120  
 ccaggcgaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaagga 180  
 gatatacgctg aagggtacag cgtctctcgg gagaagaagg aatccttcc tctcactgtg 240  
 acatcgcccc aaaagaaccc gacagcttc tatctctgtg ccagtagttc gaggagctcc 300  
 tacgagcagt acttcggcc gggcaccagg ctcacggta cagaggaccc gaaaaacgtt 360  
 ttcccacccg aggtcgctgt gtttgaacca tcagaagcag agatctccca caccctaaag 420  
 gcccacactgg tgtgcctggc cacaggcttc taccccgacc acgtggagct gagctggtg 480  
 gtgaatggga aggaggtgca cagtgggtc agcacagaco cgccagccct caaggagcag 540  
 cccgcctca atgactccag atactgcctg agcagccgc tgagggtctc gcccacccctc 600  
 tggcagaacc cccgcaacca cttccgcgtt caagtccagt tctacgggtc ctcggagaat 660  
 gacgagtgga cccagggatag ggcacaaacct gtcacccaga tgcgtcagcgc cgaggcctgg 720  
 ggttagagcag accccggggg tctgactgtat acactccaag cggagacaga tcaacttgaa 780  
 gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840  
 gagttcatcc tggcagctta ctag 864

<210> 4  
 <211> 287  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Amino acid  
 sequence of human HLA-A2/flu matrix peptide  
 restricted JM22 TCR beta chain fused to c-fos  
 leucine zipper domain.

<400> 4  
 Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys  
 1 5 10 15

Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp  
 20 25 30

Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile  
 35 40 45

Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu

50

55

60

Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val  
65                      70                      75                      80

Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser  
85                      90                      95

Ser Arg Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr  
100                      105                      110

Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe  
115                      120                      125

Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val  
130                      135                      140

Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp  
145                      150                      155                      160

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro  
165                      170                      175

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser  
180                      185                      190

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe  
195                      200                      205

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr  
210                      215                      220

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp  
225                      230                      235                      240

Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr  
245                      250                      255

Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn  
260                      265                      270

Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr  
275                      280                      285

<210> 5

<211> 918

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding  
for human HLA-A2/flu matrix peptide restricted  
JM22 TCR beta chain fused to c-fos leucine zipper

domain and BirA biotinylation tag.

<400> 5

atgggtggatg gtggaatcac tcagtcacca aagtacctgt tcagaaaagga aggacagaat 60  
gtgaccctga gttgtgaaca gaatttgaac cacgatgcca tgtactggta ccgcacaggac 120  
ccagggcaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaaagga 180  
gatatacgctg aagggtacag cgtctctcg gagaagaagg aatccttcc tctcactgtg 240  
acatcgccc aaaagaaccc gacagcttc tatctctgtg ccagtagttc gaggagctcc 300  
tacgagcagt acttcggcc gggcaccagg ctcacggtca cagaggacct gaaaaacgtt 360  
ttcccccccg aggtcgctgt gtttgaacca tcagaagcag agatctccca cacccaaag 420  
gccacactgg tgcgtccggc cacaggcttc tacccgacc acgtggagct gagctgggtgg 480  
gtgaatggga aggagggtc a cgtgggtc agcacagacc cgccagccct caaggagcag 540  
cccgccctca atgactccag atactgcctg agcagccgcc tgagggtctc ggccaccccttc 600  
tggcagaacc cccgcaacca cttccgcgtgt caagtccagt tctacgggtc ctcggagaat 660  
gacgagtgga cccaggatag ggc当地aaacct gtcacccaga tcgtcagcgc cgaggcctgg 720  
ggttagagcag accccggggg tctgactgtat acactccaag cggagacaga tcaacttgaa 780  
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa gaaaaaacta 840  
gagttcatcc tggcagctt cggatccgggt ggtggctgtac acgatatttt tgaagctcag 900  
aaaatcgaat ggcattaa 918

<210> 6

<211> 305

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid  
sequence of human HLA-A2/flu matrix peptide  
restricted JM22 TCR beta chain fused to c-fos  
leucine zipper domain and BirA biotinylation tag.

<400> 6

Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys  
1 5 10 15

Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp  
20 25 30

Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile  
35 40 45

Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu  
50 55 60

Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val  
65 70 75 80

Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser  
85 90 95

Ser Arg Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr  
100 105 110

Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe

115	120	125
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val		
130	135	140
Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp		
145	150	155
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro		
165	170	175
Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser		
180	185	190
Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe		
195	200	205
Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr		
210	215	220
Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp		
225	230	235
Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr		
245	250	255
Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn		
260	265	270
Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr Gly		
275	280	285
Ser Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp		
290	295	300
His		
305		

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<210> 7
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Gene coding
      for human HLA-A2/HTLV-1 Tax peptide restricted TCR
      alpha chain from clone A6 fused to c-jun leucine
      zipper domain.

<400> 7
atgcagaagg aagtggagca gaactctgga cccctcagtg ttccagaggg agccattgcc 60
tctctcaact gcacttacag tgaccgaggt tcccagtcct tcttctggta cagacaatat 120
tctggaaaaa gccctgagtt gataatgtcc atatactcca atggtgacaa agaagatgga 180

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aggtttacag cacagctcaa taaagccagc cagtatgtt ctctgctcat cagagactcc 240  
cagcccagtg attcagccac ctacacctgt gcccgttacaa ctgacagctg ggggaaattg 300  
cagtttggag cagggacca gggttgtggtc accccagata tccagaaccc tgaccctgcc 360  
gtgtaccaggc tgagagactc taaaatccagt gacaagtctg tctgcctatt caccgatttt 420  
gattctcaaa caaatgtgtc acaaagtaag gattctgtatg tgtatatcac agacaaaact 480  
gtgcttagaca tgaggtctat ggacttcaag agcaacagtg ctgtggcctg gagcaacaaa 540  
tctgactttg catgtcaaa cgccctcaac aacagcatta ttccagaaga caccttcttc 600  
cccagccccag aaagttcccc cgggggtaga atcggccggc tggagggaaaa agtggaaaacc 660  
ttgaaagctc agaactcgga gctggcggtcc acggccaaca tgctcaggga acaggtggca 720  
cagcttaaac agaaagtcat gaactactag 750

<210> 8  
<211> 249  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Amino acid  
sequence of human HLA-A2/HTLV-1 Tax peptide  
restricted TCR alpha chain from clone A6 fused to  
c-jun leucine zipper domain.

<400> 8  
Met Gln Lys Glu Val Glu Gln Asn Ser Gly Pro Leu Ser Val Pro Glu  
1 5 10 15  
  
Gly Ala Ile Ala Ser Leu Asn Cys Thr Tyr Ser Asp Arg Gly Ser Gln  
20 25 30  
  
Ser Phe Phe Trp Tyr Arg Gln Tyr Ser Gly Lys Ser Pro Glu Leu Ile  
35 40 45  
  
Met Ser Ile Tyr Ser Asn Gly Asp Lys Glu Asp Gly Arg Phe Thr Ala  
50 55 60  
  
Gln Leu Asn Lys Ala Ser Gln Tyr Val Ser Leu Leu Ile Arg Asp Ser  
65 70 75 80  
  
Gln Pro Ser Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Thr Asp Ser  
85 90 95  
  
Trp Gly Lys Leu Gln Phe Gly Ala Gly Thr Gln Val Val Val Thr Pro  
100 105 110  
  
Asp Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys  
115 120 125  
  
Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr  
130 135 140  
  
Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr  
145 150 155 160  
  
Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala

165

170

175

Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser  
180 185 190

Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly  
195 200 205

Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln  
210 215 220

Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala  
225 230 235 240

Gln Leu Lys Gln Lys Val Met Asn Tyr  
245

<210> 9

<211> 928

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding  
for human HLA-A2/HTLV-1 Tax peptide restricted TCR  
beta chain from clone A6 fused to c-fos leucine  
zipper domain and BirA biotinylation tag.

<400> 9

atgaacgctg gtgtcactca gacccaaaaa ttccaggtcc tgaagacagg acagagcatg 60  
acactgcagt gtgcccgagga tatgaaccat gaatacatgt cctggtatcg acaagaccca 120  
ggcatggggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180  
gtccccatg gctacaatgt ctccagatca accacagagg atttcccgct caggctgctg 240  
tcggctgctc cctcccgagac atctgtgtac ttctgtgcca gcaggccggg actagcggga 300  
gggcgaccag agcagtactt cgggcccgggc accaggctca cggtcacaga ggacctgaaa 360  
aacgtgttcc caccggaggt cgctgtgtt gagccatcag aagcagagat ctccccacacc 420  
caaaaggcca cactggtgtg cctggccaca ggcttctacc ccgaccacgt ggagctgagc 480  
tggtgggtga atggaaagga ggtgcacagt ggggtcagca cagaccgcga gcccctcaag 540  
gagcagcccg ccctcaatga ctccagatac gctctgagca gcccctcgag ggtctcgcc 600  
accttctggc agaaccggcg caaccacttc cgctgtcaag tccagttcta cgggctctcg 660  
gagaatgacg agtggaccca ggatagggcc aaacctgtca cccagatcgt cagcgccgag 720  
gcctgggtta gagcagaccc cgggggtctg actgatacac tccaaagcggaa gacagatcaa 780  
cttgaagaca agaagtctgc gttcagacc gagattgcca atctactgaa agagaaggaa 840  
aaactagagt tcatcctggc agcttacgga tccggtggtg gtctgaacga tattttgaa 900  
gctcagaaaa tcgaatggca ttaagctt 928

<210> 10

<211> 307

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Amino acid sequence of human HLA-A2/HTLV-1 Tax peptide restricted TCR beta chain from clone A6 fused to c-fos leucine zipper domain and BirA biotinylation tag.

<400> 10  
Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr  
1 5 10 15  
  
Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr  
20 25 30  
  
Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His  
35 40 45  
  
Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly  
50 55 60  
  
Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu  
65 70 75 80  
  
Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Arg Pro  
85 90 95  
  
Gly Leu Ala Gly Gly Arg Pro Glu Gln Tyr Phe Gly Pro Gly Thr Arg  
100 105 110  
  
Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala  
115 120 125  
  
Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr  
130 135 140  
  
Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser  
145 150 155 160  
  
Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro  
165 170 175  
  
Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu  
180 185 190  
  
Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn  
195 200 205  
  
His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu  
210 215 220  
  
Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu  
225 230 235 240  
  
Ala Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala  
245 250 255

Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile  
260 265 270

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala  
275 280 285

Tyr Gly Ser Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile  
290 295 300

Glu Trp His  
305

<210> 11

<211> 765

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding  
for human HLA-A2/HTLV-1 Tax peptide restricted TCR  
alpha chain from clone M10B7/D3 fused to c-jun  
leucine zipper domain.

<400> 11

atgcaacaga agaatgatga ccagcaagtt aagcaaaatt caccatccct gagcgtccag 60  
gaaggaagaa tttcttattct gaactgtgac tatactaaca gcatgttga ttatttccta 120  
tggtacaaaa aataccctgc tgaaggctt acattcctga tatctataag ttccattaag 180  
gataaaaatg aagatggaag attcaactgtc ttcttaaaca aaagtgccaa gcacctct 240  
ctgcacattg tgccctccca gcctggagac tctgcagtgt acttctgtgc agcaatggag 300  
ggagcccaga agctggatt tggccaagga accaggctga ctatcaaccc aaatatccag 360  
aaccctgacc ctgccgtgtc ccagctgaga gactctaaat ccagtgcacaa gtctgtctgc 420  
ctattcacccg attttgcattc tcaaacaat gtgtcacaaa gtaaggattc tgatgttat 480  
atcacagaca aaactgtgct agacatgagg tctatggact tcaagagcaa cagtgcgtg 540  
gcctggagca acaaattctga ctttgcatgt gcaaacgcct tcaacaacag cattattcca 600  
gaagacacct tcttccccag cccagaaagt tccccccgggg gtagaatcgc ccggctggag 660  
aaaaaaatgta aaaccttcaa agctcagaac tcggagctgg cgtccacggc caacatgctc 720  
agggAACAGG tggcacagct taaaacagaaa gtcataact actag 765

<210> 12

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid  
sequence of human HLA-A2/HTLV-1 Tax peptide  
restricted TCR alpha chain from clone M10B7/D3  
fused to c-jun leucine zipper domain

<400> 12

Met Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn Ser Pro Ser  
1 5 10 15

Leu Ser Val Gln Glu Gly Arg Ile Ser Ile Leu Asn Cys Asp Tyr Thr  
                   20                  25                  30  
  
 Asn Ser Met Phe Asp Tyr Phe Leu Trp Tyr Lys Lys Tyr Pro Ala Glu  
                   35                  40                  45  
  
 Gly Pro Thr Phe Leu Ile Ser Ile Ser Ser Ile Lys Asp Lys Asn Glu  
                   50                  55                  60  
  
 Asp Gly Arg Phe Thr Val Phe Leu Asn Lys Ser Ala Lys His Leu Ser  
                   65                  70                  75                  80  
  
 Leu His Ile Val Pro Ser Gln Pro Gly Asp Ser Ala Val Tyr Phe Cys  
                   85                  90                  95  
  
 Ala Ala Met Glu Gly Ala Gln Lys Leu Val Phe Gly Gln Gly Thr Arg  
                   100                105                  110  
  
 Leu Thr Ile Asn Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln  
                   115                120                  125  
  
 Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp  
                   130                135                  140  
  
 Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr  
                   145                150                  155                  160  
  
 Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser  
                   165                170                  175  
  
 Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn  
                   180                185                  190  
  
 Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro  
                   195                200                  205  
  
 Glu Ser Ser Pro Gly Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys  
                   210                215                  220  
  
 Thr Leu Lys Ala Gln Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu  
                   225                230                  235                  240  
  
 Arg Glu Gln Val Ala Gln Leu Lys Gln Lys Val Met Asn Tyr  
                   245                250

<210> 13  
 <211> 925  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Gene coding  
 for human HLA-A2/HTLV-1 Tax peptide restricted TCR

beta chain from clone M10B7/D3 fused to c-fos  
leucine zipper domain and BirA biotinylation tag.

<400> 13  
atgaacgctg gtgtcaactca gaccccaaaa ttccaggtcc tgaagacagg acagagcatg 60  
acactgcagt gtgcccgaga tatgaaccat gaatacatgt cctggtatcg acaagagccca 120  
ggcatgggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180  
gtccccaaatg gctacaatgt ctccagatca accacagagg atttcccgct caggctgctg 240  
tcggctgctc cctcccgac atctgtgtac ttctgtgcca gcagttacca ggaggggggg 300  
ttttacgagc agtacttcgg gccggcacc aggctcacgg tcacagagga cctgaaaaac 360  
gtgttccac ccgaggtcgc tgtgttttag ccatcagaag cagagatctc ccacacccaa 420  
aaggccacac tggtgtgcct ggcacaggc ttctaccccg accacgtgga getgagctgg 480  
tgggtgaatg ggaaggaggt gcacagtggg gtcagcacag acccgcagcc cctcaaggag 540  
cagccccc tcaatgactc cagatacgct ctgagcagcc gcctgagggt ctcggccacc 600  
ttctggcagg acccccgaa ccacttccgc tgtcaagtcc agttctacgg gctctcgag 660  
aatgacgagt ggacctcagga tagggccaaa cccgtcaccc agatcgtcag cggcggaggcc 720  
tgggttagag cagaccccg gggctgtact gatacactcc aagcggagac agatcaactt 780  
gaagacaaga agtctgcgtt gcagaccgag attgccaatc tactgaaaga gaaggaaaaaa 840  
ctagagttca tcctggcagc ttacggatcc ggtggtggtc tgaacgatat ttttgaagct 900  
cagaaaatcg aatggcatta agctt 925

<210> 14  
<211> 306  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Amino acid  
sequence of human HLA-A2/HTLV-1 Tax peptide  
restricted TCR beta chain from cloneM10B7/D3 fused  
to c-fos leucine zipper domain and BirA  
biotinylation tag.

<400> 14  
Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr  
1 5 10 15  
  
Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr  
20 25 30  
  
Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His  
35 40 45  
  
Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly  
50 55 60  
  
Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu  
65 70 75 80  
  
Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Ser Tyr  
85 90 95  
  
Pro Gly Gly Phe Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu  
100 105 110

Thr	Val	Thr	Glu	Asp	Leu	Lys	Asn	Val	Phe	Pro	Pro	Glu	Val	Ala	Val
115									120						125
Phe	Glu	Pro	Ser	Glu	Ala	Glu	Ile	Ser	His	Thr	Gln	Lys	Ala	Thr	Leu
130									135						140
Val	Cys	Leu	Ala	Thr	Gly	Phe	Tyr	Pro	Asp	His	Val	Glu	Leu	Ser	Trp
145									150				155		160
Trp	Val	Asn	Gly	Lys	Glu	Val	His	Ser	Gly	Val	Ser	Thr	Asp	Pro	Gln
165									170						175
Pro	Leu	Lys	Glu	Gln	Pro	Ala	Leu	Asn	Asp	Ser	Arg	Tyr	Ala	Leu	Ser
180									185						190
Ser	Arg	Leu	Arg	Val	Ser	Ala	Thr	Phe	Trp	Gln	Asp	Pro	Arg	Asn	His
195								200						205	
Phe	Arg	Cys	Gln	Val	Gln	Phe	Tyr	Gly	Leu	Ser	Glu	Asn	Asp	Glu	Trp
210								215						220	
Thr	Gln	Asp	Arg	Ala	Lys	Pro	Val	Thr	Gln	Ile	Val	Ser	Ala	Glu	Ala
225							230				235				240
Trp	Gly	Arg	Ala	Asp	Pro	Gly	Gly	Leu	Thr	Asp	Thr	Leu	Gln	Ala	Glu
245							250							255	
Thr	Asp	Gln	Leu	Glu	Asp	Lys	Ser	Ala	Leu	Gln	Thr	Glu	Ile	Ala	
260							265							270	
Asn	Leu	Leu	Lys	Glu	Lys	Glu	Lys	Leu	Glu	Phe	Ile	Leu	Ala	Ala	Tyr
275							280							285	
Gly	Ser	Gly	Gly	Gly	Leu	Asn	Asp	Ile	Phe	Glu	Ala	Gln	Lys	Ile	Glu
290							295							300	
Trp	His														
		305													

<210> 15

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Forward poly-C  
"anchor" primer for PCR amplification of cDNAs  
extended at their 3'-terminal with a stretch of  
G-residues using Terminal Transferase.

<400> 15

taataactcg aggcgcgccc cccccccccc ccc

33

<210> 16  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human TCR alpha chain constant region 3'-specific PCR primer.

<400> 16  
atataacccg gggaccaga tccccacagg aactttctgg gctgggga 48

<210> 17  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human TCR beta chain constant region 3'-specific PCR primer.

<400> 17  
atataacccg gggaccaga tccccacagt ctgctctacc ccaggcc 47

<210> 18  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human c-jun leucine zipper 5'-specific PCR primer.

<400> 18  
catacacccg gggtagaaat cgcccggtg gag 33

<210> 19  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human c-jun leucine zipper 3'-specific PCR primer.

<400> 19  
gtgtgtgctc gaggatccta gtagttcatg actttctgtt taagctgtgc 50

<210> 20  
<211> 39

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human c-fos  
leucine zipper 5'-specific PCR primer.

<400> 20  
catacacccg ggggtctgac tgatacac tc caagcggag 39

<210> 21  
<211> 49  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human c-fos  
leucine zipper 3'-specific PCR primer.

<400> 21  
tgtgtgctcg aggatcctag taagctgcc a gatgaactc tagttttc 49

<210> 22  
<211> 120  
<212> DNA  
<213> Homo sapiens

<220>  
<223> Partial human c-jun sequence coding for the  
leucine zipper domain as fused to TCR alpha  
chains.

<400> 22  
agaatcgccc ggctggagga aaaagtgaaa accttgaaag ctcagaactc ggagctggcg 60  
tccacggcca acatgcttag ggaacaggta gcacagctt aacagaaaat catgaactac 120

<210> 23  
<211> 120  
<212> DNA  
<213> Homo sapiens

<220>  
<223> Partial human c-fos sequence coding for the  
leucine zipper domain as fused to TCR beta chains.

<400> 23  
ctgactgata cactccaagg ggagacagac caactagaag atgagaagtc tgctttcag 60  
accgagattt ccaacctgct gaaggagaag gaaaaactag agttcatcct ggcagttac 120

<210> 24  
<211> 40

<212> PRT

<213> Homo sapiens

<220>

<223> c-jun leucine zipper domain amino acid sequence as fused to TCR alpha chains.

<400> 24

Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn  
1 5 10 15

Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln  
20 25 30

Leu Lys Gln Lys Val Met Asn Tyr

35 40

<210> 25

<211> 40

<212> PRT

<213> Homo sapiens

<220>

<223> c-fos leucine zipper domain amino acid sequence as fused to TCR beta chains.

<400> 25

Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Leu Glu Asp Glu Lys  
1 5 10 15

Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys  
20 25 30

Leu Glu Phe Ile Leu Ala Ala Tyr

35 40

<210> 26

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Forward PCR primer for mutating the unpaired cysteine of human TCR beta chains to serine.

<400> 26

gactccagat acagcctgag cagccg

26

<210> 27

<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Partial amino acid sequence of the human TCR beta chain after mutating the unpaired cysteine to serine.

<400> 27  
Asp Ser Arg Tyr Ser Leu Ser Ser  
1 5

<210> 28  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Reverse PCR primer for mutating the unpaired cysteine of human TCR beta chains to serine.

<400> 28  
cggtctatca ggcttatctt ggagtc

26

<210> 29  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Forward PCR primer for mutating the unpaired cysteine of human TCR beta chains to alanine.

<400> 29  
gactccagat acgtctgag cagccg

26

<210> 30  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Partial amino acid sequence of the human TCR beta chain after mutating the unpaired cysteine to alanine.

<400> 30  
Asp Ser Arg Tyr Ala Leu Ser Ser

<210> 31  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Reverse PCR  
primer for mutating the unpaired cysteine of human  
TCR beta chains to alanine.

<400> 31  
cggttgctca gagcgtatct ggagtc

26

<210> 32  
<211> 57  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: 5' PCR primer  
for the human v alpha10.2 chain of the JM22  
Influenza matrix protein peptide/HLA-A0201  
restricted TCR.

<400> 32  
gctctagaca tatgcaacta ctagaacaaa gtcctcagtt tctaaggcatc caagagg 57

<210> 33  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: New N-terminal  
amino acid sequence of truncated Valpha10.2 chain  
of the JM22 Influenza Matrix protein  
peptide/HLA-A0201 restricted TCR.

<400> 33  
Met Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu  
1 5 10 15

<210> 34  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: 5' PCR primer  
for amplification of the human Vbeta17 chain of  
the JM22 Influenza matrix peptide/HLA-A0201  
restricted TCR.

<400> 34  
gctctagaca tatggat ggtggatca ctcagtc

39

<210> 35  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: New  
N-terminal amino acid sequence of the truncated  
Vbeta17 chain of the human JM22 Influenza Matrix  
peptide/HLA-A0201 restricted TCR.

<400> 35  
Met Val Asp Gly Gly Ile Thr Gln Ser  
1 5

<210> 36  
<211> 57  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: 5' PCR primer  
for amplification of the mouse Valpha4 chain of  
the Influenza virus nucleoprotein peptide/H2-Db  
restricted TCR.

<400> 36  
gctctagaca tatggattct gttactaaa tgcaaggta agtgaccctc tcatacg 57

<210> 37  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: New N-terminal  
amino acid sequence of truncated Valpha4 chain of  
the mouse Influenza virus nucleoprotein  
peptide/H2-Db restricted TCR.

<400> 37  
Met Asp Ser Val Thr Gln Met Gln Gly Gln Val Thr Leu Ser Ser

1

5

10

15

<210> 38  
<211> 53  
<212> DNA  
<213> Mus musculus

<220>  
<223> 5' PCR primer for amplification of the mouse  
Vbeta11 chain of the Influenza nucleoprotein  
peptide/H2-Db restricted TCR.

<400> 38  
gctctagaca tatggAACCA acAAATGCTG gtgttatCCA AACACCTAGG cac

53

<210> 39  
<211> 14  
<212> PRT  
<213> Mus musculus

<220>  
<223> New N-terminal amino acid sequence of truncated  
Vbeta11 chain of the mouse Influenza virus  
nucleoprotein peptide/H2-Db restricted TCR.

<400> 39  
Met Glu Pro Thr Asn Ala Gly Val Ile Gln Thr Pro Arg His  
1 5 10

<210> 40  
<211> 36  
<212> DNA  
<213> Homo sapiens

<220>  
<223> 5' PCR primer for amplification of the human  
Valpha23 chain of the HIV-1 Gag peptide/HLA-A0201  
restricted TCR.

<400> 40  
ggaattccat atgaaacaag aggttacaca aattcc

36

<210> 41  
<211> 8  
<212> PRT  
<213> Homo sapiens

<220>  
<223> New N-terminal amino acid sequence of truncated

human Valpha23 chain of the HIV-1 Gag peptide/HLA-A0201 restricted TCR.

<400> 41  
Met Lys Gln Glu Val Thr Gln Ile  
1 5

<210> 42  
<211> 36  
<212> DNA  
<213> Homo sapiens

<220>  
<223> 5' PCR primer for amplification of the human Vbeta5.1 chain of the HIV-1 Gag peptide/HLA-A0201 restricted TCR.

<400> 42  
ggaattccat atgaaaagctg gagttactca aactcc

36

<210> 43  
<211> 8  
<212> PRT  
<213> Homo sapiens

<220>  
<223> New N-terminal amino acid sequence of truncated human Vbeta5.1 chain of the HIV-1 Gag peptide/HLA-A0201 restricted TCR.

<400> 43  
Met Lys Ala Gly Val Thr Gln Thr  
1 5

<210> 44  
<211> 33  
<212> DNA  
<213> Homo sapiens

<220>  
<223> 5' PCR primer for amplification of the human Valpha2.3 chain of the HTLV-1 Tax peptide/HLA-A0201 restricted A6 TCR.

<400> 44  
ccccccata tgcagaagga agtggagcag aac

33

<210> 45  
<211> 8

<212> PRT  
<213> Homo sapiens  
  
<220>  
<223> New N-terminal amino acid sequence of truncated  
human Valpha2.3 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted A6 TCR.

<400> 45  
Met Gln Lys Glu Val Glu Gln Lys  
1 5

<210> 46  
<211> 33  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<223> 5' PCR primer for amplification of the human  
Vbeta12.3 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted A6 TCR.

<400> 46  
ccccccata tgaacgctgg tgtcactcag acc

33

<210> 47  
<211> 8  
<212> PRT  
<213> Homo sapiens  
  
<220>  
<223> New N-terminal amino acid sequence of truncated  
human Vbeta12.3 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted A6 TCR

<400> 47  
Met Lys Ala Gly Val Thr Gln Thr  
1 5

<210> 48  
<211> 48  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<223> 5' PCR primer for amplification of the human  
Valpha17.2 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted B7 TCR.

<400> 48

ccccccata tgcaacaaaa aaatgatgac cagcaagtta agcaaaat

48

<210> 49

<211> 13

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated  
human Valpha17.2 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted B7 TCR

<400> 49

Met Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn

1

5

10

<210> 50

<211> 45

<212> DNA

<213> Homo sapiens

<220>

<223> 5' PCR primer for amplification of the human  
Vbeta12.3 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted B7 TCR.

<400> 50

ccccccata tgaacgctgg tgtcactcag accccaaaat tccag

45

<210> 51

<211> 12

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated  
human Vbeta12.3 chain of the HTLV-1 Tax  
peptide/HLA-A0201 restricted B7 TCR

<400> 51

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln

1

5

10

<210> 52

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<223> 3' PCR primer for the human Calpha chains,  
generally applicable.

<400> 52  
catacacccg ggggaacttt ctgggctggg gaagaagg

38

<210> 53  
<211> 33  
<212> DNA  
<213> Homo sapiens

<220>  
<223> 3' PCR primer for human Cbeta chains, generally  
applicable.

<400> 53  
catacacccg gggctcgctc taccggcaggc ctc

33

<210> 54  
<211> 744  
<212> DNA  
<213> Homo sapiens

<220>  
<223> Mutated DNA sequence of soluble HLA-A2/flu matrix  
restricted TCR alpha chain from JM22, as fused to  
the leucine zipper domain of human c-jun.

<400> 54  
atgcaactac tagaacaaag tcctcagttt ctaagcatcc aagagggaga aaatctca 60  
gtgtactgca actcctcaag tggggggcc agcttacaat ggtacagaca ggaggctggg 120  
gaaggcctg tcctcctggt gacagtagtt acgggtggag aagtgaagaa gctgaagaga 180  
ctaacccttc agtttggta tgcaagaaag gacagttctc tccacatcac tgcggcccag 240  
cctggtgata caggcctcta cctctgtgca ggagcgggaa gccaaggaaa tctcatctt 300  
ggaaaaggca ctaaaactctc tggtaaacca aatatccaga accctgaccc tgccgtgtac 360  
cagctgagag actctaaatc cagtgacaag tctgtctgcc tattcaccga ttttgattct 420  
caaacaaatg tgtcacaaag taaggattct gatgtgtata tcacagacaa aactgtgcta 480  
gacatgaggt ctatggactt caagagcaac agtgcgtgaa cctggagcaa caaatctgac 540  
tttgcattgtg caaacgcctt caacaacagc attattccag aagacacctt cttccccagc 600  
ccagaaaaggcc ccccccgggg tagaatcgcc cggctggagg aaaaagtgaa aaccttgaaa 660  
gctcagaact cggagctggc gtccacggcc aacatgtcga gggAACAGGT ggcacagctt 720  
aaacagaaaag tcatgaacta ctag

744

<210> 55  
<211> 247  
<212> PRT  
<213> Homo sapiens

<220>  
<223> Predicted amino acid sequence of soluble  
HLA-A2/flu matrix restricted TCR alpha chain from  
JM22, as fused to the leucine zipper domain of

human c-jun.

<400> 55  
Met Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu Gly  
1 5 10 15

Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser Ser Leu  
20 25 30

Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu Val Thr  
35 40 45

Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr Phe Gln  
50 55 60

Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala Ala Gln  
65 70 75 80

Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Ala Gly Ser Gln Gly  
85 90 95

Asn Leu Ile Phe Gly Lys Gly Thr Lys Leu Ser Val Lys Pro Asn Ile  
100 105 110

Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser  
115 120 125

Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val  
130 135 140

Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu  
145 150 155 160

Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser  
165 170 175

Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile  
180 185 190

Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly Gly Arg  
195 200 205

Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn Ser  
210 215 220

Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln Leu  
225 230 235 240

Lys Gln Lys Val Met Asn Tyr  
245

<210> 56

<211> 864

<212> DNA  
<213> Homo sapiens

<220>  
<223> DNA sequence of soluble HLA-A2/flu matrix  
restricted TCR Beta chain from JM22, as fused to  
the leucine zipper domain of human c-fos.

<400> 56  
atgggttatg gtggaatcac tcagtccca aagtacctgt tcagaaagga aggacagaat 60  
gtgaccctga gttgtgaaca gaatttgaac cacatgcac tgcactggta ccgacaggac 120  
ccagggcaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaagga 180  
gatatacgctg aagggtacag cgtctctcgg gagaagaagg aatccttcc tctcactgtg 240  
acatcgcccc aaaagaaccc gacagtttc tatctctgtg ccagtagttc gaggagctcc 300  
tacgagcagt acttcgggcc gggcaccagg ctacacggta cagaggaccc gaaaaacgtt 360  
ttcccacccg aggtcgctgt gtttgaacca tcagaaggcag agatctccca caccctaaag 420  
gccacactgg tgcgcctggc cacaggcttc taccccgacc acgtggagct gagctggtg 480  
gtgaatggga aggagggtcga cagtgggtc agcacagacc cgccacccct caaggagcag 540  
cccgccctca atgactccag atactgcctg agcagccgccc tgagggtctc gcccaccc 600  
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacggct ctcggagaat 660  
gacgagtggc cccaggatag ggcacaaacct gtcacccaga tcgtcagcgc cgaggcctgg 720  
ggtagagcag accccggggg tctgactgt acactccaag cggagacaga tcaacttgaa 780  
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaaagagaa ggaaaaacta 840  
gagttcatcc tggcagctta ctag 864

<210> 57  
<211> 287  
<212> PRT  
<213> Homo sapiens

<220>  
<223> Predicted amino acid sequence of soluble  
HLA-A2/flu matrix restricted TCR Beta chain from  
JM22, as fused to the leucine zipper domain of  
human c-fos.

<400> 57  
Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys  
1 5 10 15  
  
Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp  
20 25 30  
  
Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile  
35 40 45  
  
Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu  
50 55 60  
  
Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val  
65 70 75 80  
  
Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser  
85 90 95

Ser Arg Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr  
100 105 110

Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe  
115 120 125

Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val  
130 135 140

Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp  
145 150 155 160

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro  
165 170 175

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser  
180 185 190

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe  
195 200 205

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr  
210 215 220

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp  
225 230 235 240

Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr  
245 250 255

Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn  
260 265 270

Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr  
275 280 285

<210> 58  
<211> 795  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> DNA sequence of soluble H2-Db/Influenza virus nucleoprotein restricted TCR beta chain from the murine F5 receptor, as fused to the leucine zipper domain of human c-fos.

<220>  
<223> Description of Artificial Sequence: DNA sequence of soluble H2-Db/Influenza virus nucleoprotein restricted TCR beta chain from the murine F5 receptor, as fused to the leucine zipper domain of c-fos.

<400> 58  
atgaactatt ctccagctt agtgactgtg atgctgttg tgtttggag gacccatgga 60  
gactcagtaa cccagatgca aggtcaagtg accctctcg aagacgactt cctattata 120  
aactgtactt attcaaccac atggtacccg actctttct ggtatgtcca atatcctgga 180  
gaaggccac agctccttt gaaagtaca acagccaaca acaaggaaat cagcagaggt 240  
tttgaagcta catatgataa aggaacaacg tccttccact tgcagaaaagc ctcagtgcag 300  
gagtcagact ctgctgtgtc ctactgtgtg ctgggtgatc gacagggagg cagagctctg 360  
atatttggaa caggaaccac ggtatcagtc agccccaaaca tccagaaccc agaacctgct 420  
gtgtaccagt taaaagatcc tcggtctcg gacagcaccc tctgcctgtt caccgacttt 480  
gactcccaa tcaatgtgcc gaaaaccatg gaatctggaa cgttcatcac tgacaaaact 540  
gtgctggaca tgaaagctat ggattccaag agcaatgggg ccattgcctg gagcaaccag 600  
acaagcttca cctgccaaga tatctccaaa gagaccaacg ccacctaccc cagttcagac 660  
gttcccgggg gttagaatcgc cggctggag gaaaaagtga aaaccttcaa agctcagaac 720  
tcggagctgg cgccacggc caacatgctc agggAACAGG tggcacagct taaacagaaa 780  
gtcatgaact actag 795

<210> 59  
<211> 264  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Predicted amino acid sequence of soluble  
H2-Db/Influenza virus nucleoprotein restricted TCR  
alpha chain from the murine F5 receptor, as fused  
to the leucine zipper domain of human c-jun.

<220>  
<223> Description of Artificial Sequence:Predicted amino  
acid sequence of soluble H2-Db/Influenza virus  
nucleoprotein restricted TCR alpha chain from the  
murine F5 receptor, as fused to c-jun leucine  
zipper

<400> 59  
Met Asn Tyr Ser Pro Ala Leu Val Thr Val Met Leu Phe Val Phe Gly  
1 5 10 15  
  
Arg Thr His Gly Asp Ser Val Thr Gln Met Gln Gly Gln Val Thr Leu  
20 25 30  
  
Ser Glu Asp Asp Phe Leu Phe Ile Asn Cys Thr Tyr Ser Thr Thr Trp  
35 40 45  
  
Tyr Pro Thr Leu Phe Trp Tyr Val Gln Tyr Pro Gly Glu Gly Pro Gln  
50 55 60  
  
Leu Leu Leu Lys Val Thr Thr Ala Asn Asn Lys Gly Ile Ser Arg Gly  
65 70 75 80  
  
Phe Glu Ala Thr Tyr Asp Lys Gly Thr Ser Phe His Leu Gln Lys  
85 90 95  
  
Ala Ser Val Gln Glu Ser Asp Ser Ala Val Tyr Tyr Cys Val Leu Gly

100	105	110
Asp Arg Gln Gly Gly Arg Ala Leu Ile Phe Gly Thr Gly Thr Thr Val		
115	120	125
Ser Val Ser Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu		
130	135	140
Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe		
145	150	155
Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile		
165	170	175
Thr Asp Lys Thr Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn		
180	185	190
Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile		
195	200	205
Ser Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Gly Gly		
210	215	220
Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn		
225	230	235
Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln		
245	250	255
Leu Lys Gln Lys Val Met Asn Tyr		
260		

<210> 60  
 <211> 864  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:DNA sequence  
 coding for soluble H2-Db/Influenza virus  
 nucleoprotein restricted TCR beta chain from the  
 murine F5 receptor, as fused to the c-fos leucine  
 zipper.

<400> 60  
 atgaaagctg gagttactca aactccaaga tatctgatca aaacgagagg acagcaagt 60  
 acactgagct gctccctat ctctggcat aggagtgtat cctggatcca acagacccc 120  
 ggacaggccc ttcaagttcct ctttgaatac ttcaagtgaga cacagagaaa caaaggaaac 180  
 ttccctggtc gatttcagg gcccaggatc tctaactctc gctctgagat gaatgtgagc 240  
 accttgagc tgggggactc ggccctttat ctttgcgccca gcagcttcga cagcgaaaat 300  
 tcaccctcc acttgggaa cgggaccagg ctcaactgtga cagaggacct gaacaagggtg 360  
 ttcccaccctg aggttcgtgt gtttgagcca tcagaagcag agatctccca caccctaaaag 420  
 gcccacactgg tgtgcctggc cacaggcttc ttccctgacc acgtggagct gagctgggtgg 480

gtgaatggga aggaggtgca cagtgggtc agccaggacc cgccagccccct caaggagcag 540  
cccgccctca atgactccag atacagcctg agcagccgcc tgagggtctc ggccaccc 600  
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctcggagaat 660  
gacgagtggaa cccaggatag gcccaccc 660  
ggttagagcag accccggggg tctgactgat acactccaag cggagacaga tcaacttgaa 780  
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840  
gagttcatcc tggcagctta ctag 864

<210> 61  
<211> 287  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Amino acid sequence of soluble H2-Db/Influenza virus nucleoprotein restricted TCR beta chain from the murine F5 receptor, as fused to the c-fos leucine zipper.

<400> 61  
Met Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys Thr Arg  
1 5 10 15  
  
Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser  
20 25 30  
  
Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe  
35 40 45  
  
Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg  
50 55 60  
  
Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser  
65 70 75 80  
  
Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Phe  
85 90 95  
  
Asp Ser Gly Asn Ser Pro Leu His Phe Gly Asn Gly Thr Arg Leu Thr  
100 105 110  
  
Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe  
115 120 125  
  
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val  
130 135 140  
  
Cys Leu Ala Thr Gly Phe Phe Asp His Val Glu Leu Ser Trp Trp  
145 150 155 160  
  
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Gln Asp Pro Gln Pro  
165 170 175

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ser Leu Ser Ser  
180 185 190

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe  
195 200 205

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr  
210 215 220

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp  
225 230 235 240

Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr  
245 250 255

Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn  
260 265 270

Leu Leu Lys Glu Lys Glu Phe Ile Leu Ala Ala Tyr  
275 280 285

<210> 62  
<211> 747  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA sequence  
of soluble HLA-A2/HIV-1 Gag restricted TCR alpha  
chain from patient 003, as fused to the leucine  
zipper domain of human c-jun.

<400> 62  
atgaaacaag aagttacaca gattcctgca gctctgagtg tcccagaagg agaaaaacttg 60  
gttctcaact gcagttcac ttagatgcgtt atttacaacc tccagtggtt taggcaggac 120  
cctggggaaag gtctcacatc tctgttgctt attcagtcaa gtcagagaga gcaaacaagt 180  
ggaagactta atgcctcgct ggataaatca tcaggacgta gtactttata cattgcagct 240  
tctcagcctg gtgactcagc cacctacctc tggatgtgtca ccaacttcaa caaatttac 300  
tttggatctg ggacccaaact caatgtaaaa ccaaataatcc agaaccctga ccctgccgtg 360  
taccagctga gagactctaa atccagtgtac aagtctgtct gccttattcac cgattttgat 420  
tctcaaacaat atgtgtcaca aagtaaggat tctgtatgtt atatcacaga caaaaactgtg 480  
ctagacatga ggttatgtt cttcaagagc aacagtgtct tgccctggag caacaaatct 540  
gactttgcac gtgcacaaacgc cttcaacaac agcattattc cagaagacac ctctttcccc 600  
agccccagaaaa gttccccccgg gggtagaattt gcccggctgg aggaaaaagt gaaaaccttg 660  
aaagctcaga actcggagct ggcgtccacg gccaacatgc tcagggaaaca ggtggcacag 720  
cttaaacaga aagtcatgaa ctactag 747

<210> 63  
<211> 248  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of soluble HLA-A2/HIV-1 Gag restricted TCR alpha chain from patient 003, as fused to the leucine zipper domain of human c-jun.

<400> 63

Met Lys Gln Glu Val Thr Gln Ile Pro Ala Ala Leu Ser Val Pro Glu  
1 5 10 15

Gly Glu Asn Leu Val Leu Asn Cys Ser Phe Thr Asp Ser Ala Ile Tyr  
20 25 30

Asn Leu Gln Trp Phe Arg Gln Asp Pro Gly Lys Gly Leu Thr Ser Leu  
35 40 45

Leu Leu Ile Gln Ser Ser Gln Arg Glu Gln Thr Ser Gly Arg Leu Asn  
50 55 60

Ala Ser Leu Asp Lys Ser Ser Gly Arg Ser Thr Leu Tyr Ile Ala Ala  
65 70 75 80

Ser Gln Pro Gly Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Asn Phe  
85 90 95

Asn Lys Phe Tyr Phe Gly Ser Gly Thr Lys Leu Asn Val Lys Pro Asn  
100 105 110

Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser  
115 120 125

Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn  
130 135 140

Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val  
145 150 155 160

Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp  
165 170 175

Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile  
180 185 190

Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly Gly  
195 200 205

Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn  
210 215 220

Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln  
225 230 235 240

Leu Lys Gln Lys Val Met Asn Tyr  
245

<210> 64  
<211> 864  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA sequence  
of soluble HLA-A2/HIV-1 Gag restricted TCR beta  
chain from patient 003, as fused to the leucine  
zipper domain of human c-fos.

<400> 64  
atgaaagctg gagttactca aactccaaga tatctgatca aaacgagagg acagcaagt 60  
acactgagct gctcccttat ctctggcat aggagtgtat cctggatcca acagacccc 120  
ggacagggcc ttcatgttctt ctttgaatac ttcatgtgaga cacagagaaa caaaggaaac 180  
ttccctggtc gatttcagg ggcgcagg ttcactactc gctctgagat gaatgtgagc 240  
accttggagc tgggggactc ggccctttat ctttgcgcca gcagcttcga cagcgggaaat 300  
tcacccctcc actttgggaa cgggaccagg ctcactgtga cagaggacat gaacaagggt 360  
ttcccccccg aggtcgctgt gttttaggcca tcagaaggcag agatctccca cacccaaaag 420  
gccacactgg tggcctggc cacaggcttc ttccctgacc acgtggagct gagctgggtgg 480  
gtgaatggga aggagggtgca cagtggggtc agccaggacc cgccagccctt caaggagcag 540  
cccgccctca atgactccag atacaggctg agcagccgccc tgagggtctc ggcacccctc 600  
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctggagaat 660  
gacgagtgga cccaggatag ggc当地acct gtcacccaga tcgtcagcgc cgaggcctgg 720  
ggttagagcag accccggggg tctgactgt acaactccaag cggagacaga tcaacttgaa 780  
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840  
gagttcatcc tggcagctta ctag 864

<210> 65  
<211> 287  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Amino acid  
sequence of soluble HLA-A2/HIV-1 Gag restricted  
TCR beta chain from patient 003, as fused to the  
leucine zipper domain of human c-fos.

<400> 65  
Met Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys Thr Arg  
1 5 10 15  
  
Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser  
20 25 30  
  
Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe  
35 40 45  
  
Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg  
50 55 60  
  
Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser

65	70	75	80
Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Phe			
85		90	95
Asp Ser Gly Asn Ser Pro Leu His Phe Gly Asn Gly Thr Arg Leu Thr			
100	105		110
Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe			
115	120		125
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val			
130	135		140
Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp			
145	150	155	160
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Gln Asp Pro Gln Pro			
165	170		175
Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ser Leu Ser Ser			
180	185		190
Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe			
195	200		205
Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr			
210	215		220
Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp			
225	230	235	240
Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr			
245	250		255
Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn			
260	265		270
Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr			
275	280		285

<210> 66  
 <211> 750  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA sequence  
 of soluble HLA-A2/HTLV-1 Tax restricted TCR alpha  
 chain from clone A6, as fused to the leucine  
 zipper domain of c-jun.

<400> 66

atgcagaagg aagtggagca gaactctgga cccctcagtg ttccagaggg agccattgcc 60  
tctctcaact gcacttacag tgaccgaggt tcccagtctt tcttctggta cagacaatat 120  
tctggggaaaa gcccgtgat gataatgtcc atatactcca atggtgacaa agaagatgga 180  
aggtttacag cacagctcaa taaagccagc cagtagttt ctctgctcat cagagactcc 240  
cagcccagtg attcagccac ctacctctgt gcccgttacaa ctgacagctg ggggaaattg 300  
cagtttggag cagggaccca ggttgtggtc accccagata tccagaaccc tgaccctgccc 360  
gtgttaccagc tgagagactc taaatccagt gacaagtctg tctgcctatt caccgatttt 420  
gattctcaaa caaatgtgtc acaaagtaag gattctgtat tgtatatcac agacaaaact 480  
gtgcttagaca tgaggtctat ggacttcaag agcaacagtg ctgtggctg gagcaacaaa 540  
tctgactttg catgtcaaa cgccttcaac aacagcatta ttccagaaga caccttcttc 600  
cccagccccag aaagttcccc cgggggtaga atcgccccgc tggagggaaa agtggaaaacc 660  
ttgaaaagctc agaactcgga gctggcggtcc acggccaaca tgctcaggga acaggtggca 720  
cagcttaaac agaaagtcat gaactactag 750

<210> 67  
<211> 249  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence of  
soluble HLA-A2/HTLV-1 Tax restricted TCR alpha  
chain from clone A6, as fused to the leucine  
zipper domain of c-jun.

<400> 67  
Met Gln Lys Glu Val Glu Gln Asn Ser Gly Pro Leu Ser Val Pro Glu  
1 5 10 15  
  
Gly Ala Ile Ala Ser Leu Asn Cys Thr Tyr Ser Asp Arg Gly Ser Gln  
20 25 30  
  
Ser Phe Phe Trp Tyr Arg Gln Tyr Ser Gly Lys Ser Pro Glu Leu Ile  
35 40 45  
  
Met Ser Ile Tyr Ser Asn Gly Asp Lys Glu Asp Gly Arg Phe Thr Ala  
50 55 60  
  
Gln Leu Asn Lys Ala Ser Gln Tyr Val Ser Leu Leu Ile Arg Asp Ser  
65 70 75 80  
  
Gln Pro Ser Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Thr Asp Ser  
85 90 95  
  
Trp Gly Lys Leu Gln Phe Gly Ala Gly Thr Gln Val Val Val Thr Pro  
100 105 110  
  
Asp Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys  
115 120 125  
  
Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr  
130 135 140  
  
Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr

145	150	155	160
Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala			
165	170	175	
Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser			
180	185	190	
Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly			
195	200	205	
Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln			
210	215	220	
Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala			
225	230	235	240
Gln Leu Lys Gln Lys Val Met Asn Tyr			
245			

<210> 68  
 <211> 928  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA sequence  
 of soluble HLA-A2/HTLV-1 Tax restricted TCR beta  
 chain from clone A6, as fused to the leucine  
 zipper domain of c-fos and a BirA biotinylation  
 tag.

<400> 68  
 atgaacgtg gtgtcaactca gacccaaaaa ttccaggtcc tgaagacagg acagagcatg 60  
 acactgcagt gtgcccgagga tatgaaccat gaatacatgt cctggtatcg acaagaccca 120  
 ggcattggggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180  
 gtccccaaatg gctacaatgt ctccagatca accacagagg atttcccgct caggctgctg 240  
 tcggctgctc cctcccgagac atctgtgtac ttctgtgcca gcaggccggg actagcggga 300  
 gggcgaccag agcagtactt cgggcccgggc accaggctca cggtcacaga ggacctgaaa 360  
 aacgtgttcc caccggaggt cgctgtgtt gagccatcag aacgagat ctccccacacc 420  
 caaaaaggcca cactgggtgtg cctggccaca ggcttctacc ccgaccacgt ggagctgagc 480  
 tgggggtga atggaaagga ggtgcacagt gggtcagca cagaccgcga gcccctcaag 540  
 gagcagcccg ccctcaatga ctccagatac gctctgagca gccgcctgag ggtctcgcc 600  
 accttctggc agaaccggcc caaccaccccg cgctgtcaag tccagttcta cgggctctcg 660  
 gagaatgacg agtggaccca ggataggcc aaacctgtca cccagatcgt cagcgccgag 720  
 gcctgggtta gagoagaccc cgggggtctg actgatacac tccaaaggaa gacagatcaa 780  
 cttgaagaca agaagtctgc gttgcagacc gagattgcca atctactgaa agagaaggaa 840  
 aaacttagagt tcatccctggc agcttacgga tccgggtggtg gtctgaacga tattttgaa 900  
 gctcagaaaa tcgaatggca ttaagctt 928

<210> 69  
 <211> 307

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of soluble HLA-A2/HTLV-1 Tax restricted TCR beta chain from clone A6, as fused to the leucine zipper domain of c-fos and a BirA biotinylation tag

<400> 69

Met	Asn	Ala	Gly	Val	Thr	Gln	Thr	Pro	Lys	Phe	Gln	Val	Leu	Lys	Thr
1				5				10						15	
Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr															
				20			25						30		
Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His															
	35				40				45						
Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly															
	50			55			60								
Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu															
	65			70			75			80					
Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Arg Pro															
	85				90			95							
Gly Leu Ala Gly Gly Arg Pro Glu Gln Tyr Phe Gly Pro Gly Thr Arg															
	100			105			110								
Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala															
	115			120			125								
Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr															
	130			135			140								
Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser															
	145			150			155			160					
Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro															
	165			170			175								
Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu															
	180			185			190								
Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn															
	195			200			205								
His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu															
	210			215			220								
Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu															
	225			230			235			240					

Ala Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala  
245 250 255

Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile  
260 265 270

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala  
275 280 285

Tyr Gly Ser Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile  
290 295 300

Glu Trp His  
305

<210> 70  
<211> 765  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence of  
soluble HLA-A2/HTLV-1 Tax restricted TCR alpha  
chain from clone M10B7/D3, as fused to the leucine  
zipper domain of c-jun.

<400> 70  
atgcaacaga agaatgatga ccagcaagtt aagcaaaatt caccatccct gagcgtccag 60  
gaaggaagaa tttctattct gaactgtgac tatactaaca gcatgttga ttatttccta 120  
tggtacaaaa aataccctgc tgaaggctct acattcctga tatctataag ttccattaag 180  
gataaaaaatg aagatggaag attcaactgtc ttcttaaaca aaagtgccaa gcacctctct 240  
ctgcacattt tgccctccca gcctggagac tctgcagtgt acttctgtgc agcaatggag 300  
ggagcccaga agctggatt tggccaagga accaggctga ctatcaaccc aaatatccag 360  
aacccctgacc ctgccccgttccca ccagctgaga gactctaaat ccagtgacaa gtctgtctgc 420  
ctattcaccg attttgattt tcaaacaat gtgtcacaaa gtaaggattc tgatgttat 480  
atcacagaca aaactgtgct agacatgagg tctatggact tcaagagcaa cagtgcgttg 540  
gcctggagca acaaacttgc ttttgcattt gcaaacgcct tcaacaacag cattattcca 600  
gaagacaccc tcttccccag cccagaaaat tccccccgggg gtagaatcgcc ccggctggag 660  
gaaaaagtga aaaccttgaa agctcagaac tcggagctgg cgtccacggc caacatgctc 720  
aggaaacagg tggcacagct taaacagaaa gtcacatgact actag 765

<210> 71  
<211> 254  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence of  
soluble HLA-A2/HTLV-1 Tax restricted TCR alpha  
chain from clone M10B7/D3, as fused to the leucine  
zipper domain of c-jun.

<400> 71  
 Met Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn Ser Pro Ser  
 1 5 10 15  
 Leu Ser Val Gln Glu Gly Arg Ile Ser Ile Leu Asn Cys Asp Tyr Thr  
 20 25 30  
 Asn Ser Met Phe Asp Tyr Phe Leu Trp Tyr Lys Lys Tyr Pro Ala Glu  
 35 40 45  
 Gly Pro Thr Phe Leu Ile Ser Ile Ser Ser Ile Lys Asp Lys Asn Glu  
 50 55 60  
 Asp Gly Arg Phe Thr Val Phe Leu Asn Lys Ser Ala Lys His Leu Ser  
 65 70 75 80  
 Leu His Ile Val Pro Ser Gln Pro Gly Asp Ser Ala Val Tyr Phe Cys  
 85 90 95  
 Ala Ala Met Glu Gly Ala Gln Lys Leu Val Phe Gly Gln Gly Thr Arg  
 100 105 110  
 Leu Thr Ile Asn Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln  
 115 120 125  
 Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp  
 130 135 140  
 Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr  
 145 150 155 160  
 Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser  
 165 170 175  
 Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn  
 180 185 190  
 Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro  
 195 200 205  
 Glu Ser Ser Pro Gly Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys  
 210 215 220  
 Thr Leu Lys Ala Gln Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu  
 225 230 235 240  
 Arg Glu Gln Val Ala Gln Leu Lys Gln Lys Val Met Asn Tyr  
 245 250

<210> 72  
 <211> 925  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA sequence  
of soluble HLA-A2/HTLV-1 Tax restricted TCR beta  
chain from clone M10B7/D3, as fused to the leucine  
zipper domain of c-fos and a BirA biotinylation  
tag

<400> 72

atgaacgctg gtgtcactca gaccccaaaa ttccaggtcc tgaagacagg acagagcatg 60  
acactgcagt gtgcccgaga tatgaaccat gaatacatgt cctggtatcg acaagaccca 120  
ggcatggggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180  
gtccccaaatg gctacaatgt ctccagatca accacagagg atttcccgt caggctgctg 240  
tcggctgctc cctcccagac atctgtgtac ttctgtgcca gcagttacca ggaggggggg 300  
ttttacgagc agtacttcgg gccgggcccc aggctcacgg tcacagagga cctgaaaaac 360  
gtgttccac ccgaggtcgc tgtgtttgag ccatcagaag cagagatctc ccacacccaa 420  
aaggccacac tggtgtgcct ggcacaggg ttctaccccg accacgtgga gctgagctgg 480  
tgggtgaatg ggaaggaggt gcacagtggg gtcagcacag acccgcagcc cctcaaggag 540  
cagcccgccc tcaatgactc cagatacgt ctgagcagcc gcctgagggt ctcggccacc 600  
ttctggcagg acccccgcaa ccacttcgc tgtcaagtcc agttctacgg gctctcgag 660  
aatgacgagt ggacccagga tagggccaaa cccgtcaccc agatcgtcag cgccgaggcc 720  
tgggttagag cagaccccg gggctctgact gatacactcc aagcggagac agatcaactt 780  
gaagacaaga agtctgcgtt gcagaccgag attgccaatc tactgaaaga gaaggaaaaa 840  
ctagagttca tcctggcagc ttacggatcc ggtgggtggtc tgaacgatat tttgaagct 900  
cagaaaatcg aatggcatta agctt 925

<210> 73

<211> 306

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of  
soluble HLA-A2/HTLV-1 Tax restricted TCR beta  
chain from clone M10B7/D3, as fused to the c-fos  
leucine zipper domain and a BirA biotinylation  
tag.

<400> 73

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr  
1 5 10 15

Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr  
20 25 30

Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His  
35 40 45

Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly  
50 55 60

Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu  
65 70 75 80

Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Ser Tyr

85	90	95
Pro Gly Gly Gly Phe Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu		
100	105	110
Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val		
115	120	125
Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu		
130	135	140
Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp		
145	150	155
Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln		
165	170	175
Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu Ser		
180	185	190
Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn His		
195	200	205
Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp		
210	215	220
Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala		
225	230	235
Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu		
245	250	255
Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala		
260	265	270
Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr		
275	280	285
Gly Ser Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu		
290	295	300
Trp His		
305		

<210> 74  
 <211> 928  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mutated  
 sequence of soluble HLA-A2/HTLV-1 Tax restricted  
 TCR beta chain from clone A6, as fused to the

c-fos leucine zipper domain and a BirA biotinylation tag.

<400> 74

```
atgaacgctg gtgtcactca gacccaaaa ttccagggtcc tgaagacagg acagagcatg 60
acaactgcagt gtgcccagga tatgaaccat gaatacatgt cctggtatcg acaagaccca 120
ggcatggggc tgaggctgat tcattactca gtgggtgctg gtagtactga ccaaggagaa 180
gtccccatg gctacaatgt ctccagatca accacagagg atttcccgct caggctgctg 240
tcggctgctc cctcccagac atctgtgtac ttctgtgccca gcaggccggg actagcggga 300
gggcgaccag agcagtactt cgggccccgc accaggctca cggtcacaga ggacctgaaa 360
aacgtgttcc caccggaggt cgctgtgtt gagccatcag aagcagagat ctccccacacc 420
caaaaaggcca cactgggtgtg cctggccaca ggcttctacc cccgaccacgt ggagctgagc 480
tggtgggtga atgggaagga ggtgcacagt ggggtcagca cagaccgcga gcccctcaag 540
gagcagcccg ccctcaatga ctccagatac gctctgagca gccgcctgag ggtctggcc 600
accttctggc aggaccccccga caaccacttc cgctgtcaag tccagttcta cgggctctcg 660
gagaatgacg agtggacccca ggatagggcc aaacctgtca cccagatcgt cagcgccgag 720
gcctgggtta gaggcagaccc cgggggtctg actgatacac tccaagcggg gacagatcaa 780
cttgaagaca agaagtctgc gttgcagacc gagattgcca atctactgaa agagaaggaa 840
aaactagagt tcatcctggc agcttacggg tccgggtgtg gtctgaacga tattttgaa 900
gctcagaaaa tcgaatggca ttaagctt 928
```

<210> 75

<211> 307

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of mutated soluble HLA-A2/HTLV-1 Tax restricted TCR beta chain from clone A6, as fused to the c-fos leucine zipper domain and a BirA biotinylation tag.

<400> 75

Met	Asn	Ala	Gly	Val	Thr	Gln	Thr	Pro	Lys	Phe	Gln	Val	Leu	Lys	Thr
1				5				10						15	

Gly	Gln	Ser	Met	Thr	Leu	Gln	Cys	Ala	Gln	Asp	Met	Asn	His	Glu	Tyr
			20					25					30		

Met	Ser	Trp	Tyr	Arg	Gln	Asp	Pro	Gly	Met	Gly	Leu	Arg	Leu	Ile	His
				35			40					45			

Tyr	Ser	Val	Gly	Ala	Gly	Ile	Thr	Asp	Gln	Gly	Glu	Val	Pro	Asn	Gly
				50				55			60				

Tyr	Asn	Val	Ser	Arg	Ser	Thr	Thr	Glu	Asp	Phe	Pro	Leu	Arg	Leu	Leu
				65			70			75			80		

Ser	Ala	Ala	Pro	Ser	Gln	Thr	Ser	Val	Tyr	Phe	Cys	Ala	Ser	Arg	Pro
				85				90				95			

Gly	Leu	Ala	Gly	Gly	Arg	Pro	Glu	Gln	Tyr	Phe	Gly	Pro	Gly	Thr	Arg
					100			105				110			

Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala  
115 120 125

Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr  
130 135 140

Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser  
145 150 155 160

Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro  
165 170 175

Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu  
180 185 190

Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn  
195 200 205

His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu  
210 215 220

Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu  
225 230 235 240

Ala Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala  
245 250 255

Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile  
260 265 270

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala  
275 280 285

Tyr Gly Ser Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile  
290 295 300

Glu Trp His  
305

<210> 76  
<211> 190  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA sequence  
of the c-fos/BirA biotinylation tag fusion partner  
used for TCR beta chains.

<400> 76  
cccgggggtc tgactgatac actccaagcg gagacagatc aacttgaaga caagaagtct 60  
gcgttgacaa ccgagattgc caatctactg aaagagaagg aaaaactaga gttcatcctg 120  
gcagcttacg gatccgggtgg tggtctgaac gatattttg aagctcagaa aatcgaatgg 180

cattaagctt

190

<210> 77

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of  
the c-fos/BirA biotinylation tag fusion partner  
used for TCR beta chains.

<400> 77

Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Leu Glu

1

5

10

15

Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu

20

25

30

Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr Gly Ser Gly Gly

35

40

45

Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His

50

55

60

<210> 78

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Reverse primer  
used for PCR amplification of the Vbeta-c-fos  
leucine zipper fragment of the Influenza matrix  
peptide/HLA-A0201 restricted human JM22 TCR fusion  
gene

<400> 78

acacacggat ccgtaaagctg cgacgatgaa ctcgatttc tt

42

<210> 79

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer for PCR  
amplification of the human Vbeta17 chain of the  
JM22 TCR fused to the Bir biotinylation tag.

<400> 79

gggggaagct taatgccatt cgattttctg agcttcaaaa atatcggtca gaccaccacc 60  
ggatccgtaa gctgccagga tgaactctag 90

<210> 80  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer for PCR  
amplification of the human Vbeta17 chain of the  
JM22 TCR fused to the Bir biotinylation tag.

<400> 80  
gctctagaca tatggccca gtggattctg gagtcac

37

<210> 81  
<211> 9  
<212> PRT  
<213> Human immunodeficiency virus

<220>  
<223> Peptide derived from the HIV-1 Reverse  
Transcriptase protein and presented as peptide  
antigen by HLA-A0201.

<400> 81  
Ile Leu Lys Glu Pro Val His Gly Val  
1 5

<210> 82  
<211> 9  
<212> PRT  
<213> Human T-cell lymphotropic virus type 1

<220>  
<223> Peptide derived from the HTLV-1 Tax protein and  
presented as peptide antigen by HLA-A0201. This  
HLA/peptide combination restricts the A6 and B7  
TCRs.

<400> 82  
Leu Leu Phe Gly Tyr Pro Val Tyr Val  
1 5

<210> 83  
<211> 9  
<212> PRT  
<213> Influenza virus

<220>

<223> Peptide derived from Influenza virus nucleoprotein  
and presented as peptide antigen by the murine  
H2-Db. This MHC/peptide combination restricted the  
murine F5 TCR.

<400> 83

Ala Ser Asn Glu Asn Met Asp Ala Met  
1 5

<210> 84

<211> 9

<212> PRT

<213> Influenza virus

<220>

<223> Peptide derived from Influenza virus Matrix  
protein and presented as peptide antigen by  
HLA-A0201. This HLA/peptide combination restricted  
the JM22TCR.

<400> 84

Gly Ile Leu Gly Phe Val Phe Thr Leu  
1 5

<210> 85

<211> 9

<212> PRT

<213> Human immunodeficiency virus

<220>

<223> Peptide derived from HIV-1 Gag protein and  
presented as peptide antigen by HLA-A0201. This  
HLA/peptide combination restrictes the TCR cloned  
from patient 003.

<400> 85

Ser Leu Tyr Asn Thr Val Ala Thr Leu  
1 5